

# Department of Treasury

U.S. Customs Service  
Year 2000 Program Office

## Strategic Program Management Plan

### ***Executive Summary***

The Year 2000 computer date problem has prompted the U.S. Customs Service (USCS) to assess the impact of a two digit year representation for dates used in its computer software applications and systems programs. A two-digit year format has been used, historically, to save on storage space when mainframe storage was very expensive, or to offer user interface convenience. The entire Information Technology industry must assess and solve their exposure in programs, files, databases, and processes as to whether dates will be handled correctly as the Year 2000 approaches, and beyond. Without effective management, assessment, and resolution of the date-related problem, computer systems could fail or produce erroneous results either of which could be disastrous to Customs operations.

This document provides a strategic plan for organizations within Customs that are converting data or renovating applications to remove the Year 2000 problem. It describes the overall Customs approach to Year 2000 readiness. A companion document is the Customs Year 2000 Operational Plan, which provides additional detail supporting this Strategic Plan.

### **1.0 Introduction**

The Year 2000 presents a challenge to the U.S. Customs Service (USCS) operations. Most of the current mainframe systems currently operate using a 2-digit year format. The problem is found throughout Customs applications. In addition, Customs operates many physical facilities containing equipment not related to information systems that may be impacted by the century rollover. This strategic plan acknowledges the requirement to attend to this equipment to ensure successful operation during the century rollover, and beyond.

### **1.1 Background**

On July 31, 1997, the Customs Year 2000 Program Office published its first draft of the Year 2000 Program Plan. Its objective was to identify the high-level approach to be employed by Customs, and to publish early estimates of the scope of Year 2000 effort. This document and the companion Operational Program Management Plan document, elaborate on certain key elements

of the first draft, to fully describe the management and implementation plan for ensuring Year 2000 compliance at Customs.

## 1.2 Purpose

For organizations within Customs that are converting data or renovating applications to Year 2000 compliance, this document defines the scope of the Customs Year 2000 program; the goal of the plan, and specific objectives that accomplish the plan goal. This is a management document; it offers guidance to all Customs staff and management, whether federal employee or contract staff, regarding the desired renovation approach to be employed at Customs. It is the intention of the Customs Year 2000 Program Office to plan and manage the Year 2000 program at Customs as a single information system development effort, with several subsystems being developed according to a schedule that meets the overall goals of the Agency.

## 1.3 Authority

This plan, and the companion Strategic Plan, fully supports the goals and direction of the Treasury Year 2000 Date Conversion Program Management Plan<sup>1</sup>, the GAO Assessment Guide<sup>2</sup>, and the Customs FY98 Information and Technology Process Annual Plan. In addition, the plan objectives address many of the issues mandated by the Clinger-Cohen Act (ITMRA) of 1996.

This plan has the full endorsement of the Office of Information Technology (OIT), Chief Operating Officer, Robert McNamara, Office of Finance, Chief Financial Officer, Vincette Goerl, and of the Year 2000 Program Management Office, Director, Sharon Mazur. Compliance by the affected OIT Divisions with its directives is expected.

## 2.0 Strategic Plan

### 2.1 Goal

**Ensure that all computer information technology (IT) systems and non-IT systems, currently maintained by Customs, are able to process date requirements that span the century rollover.**

The Customs Year 2000 Program Management Office recognizes that systems of this nature are

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<sup>1</sup> Treasury Year 2000 Date Conversion Program Management Plan, Department of the Treasury, Deputy Assistant Secretary for Information Systems and Chief Information Officer, Office of Information Resources Management, December 18, 1996.

<sup>2</sup> Exposure Draft entitled Year 2000 Computing Crisis: An Assessment Guide (GAO/AIMD-10.1.14, February 1997)

fundamentally either mission-critical (tier 1) or non mission-critical (tier 2), or other (tier 3). Customs intends a phased approach to becoming Year 2000 compliant by addressing all mission-critical systems first, followed by non mission-critical systems. Customs consistently defines mission-critical systems to be those that cause a loss of Customs core capability when system failure occurs.

## **2.2 Objectives**

Objectives A through L are identified which collectively achieve the goal of this strategic plan. Some of these objectives are the sole responsibility of the Program Office, while others are largely the responsibility of the project teams. It is envisioned that each project team will accomplish their objectives with technical and management support from the Program Office, when necessary. Each objective is supported by key strategies. The objectives and supporting strategies are summarized in Appendix A.

### **A. Centrally Manage Year 2000 Project**

The Year 2000 program is likely the largest and most complex system conversion effort undertaken by Customs. It requires the disciplined and coordinated application of scarce resources to an enterprise-wide system conversion effort that must be complete by a fixed date. To succeed, Customs must manage the Year 2000 program as a large system development effort.

#### **Key Strategies:**

- C Establish a Year 2000 Program Office
- C Establish an Executive Council
- C Establish and Track the Overall Program Plan
- C Develop Program Office reporting requirements
- C Establish Performance Measures

### **B. Ensure Year 2000 Awareness**

Ensuring Year 2000 awareness is an objective linked to obtaining executive sponsorship. Since Customs has full sponsorship at the executive levels, this objective is focused on communicating the issues to the business units, internal IT personnel and external business partners.

#### **Key Strategies:**

- C Develop an Outreach Plan
- C Implement the Outreach Plan
- C Maintain a Central Database of Program Artifacts

**C. Establish the Enterprise Inventory**

An enterprise-wide inventory of information systems and their components provides the necessary foundation for Year 2000 program planning. A thorough inventory ensures that all systems are identified and linked to a specific business area, and that all enterprise-wide, cross-boundary systems are considered.

**Key Strategies:**

- \$ Define the Methodology for Inventory Collection
- \$ Develop Mechanism for Inventory Management and Tracking
- \$ Report Progress against Inventory Baseline

**D. Plan for Conversion Resources**

Due to the complexities and scope of the Year 2000 problem, it is critical that Customs develop comprehensive plans that establish schedules for all tasks and phases of the Year 2000 program, assign conversion projects to teams, anticipate and acquire resources for the effort.

**Key Strategies:**

- \$ Determine Mission Critical Components
- \$ Prioritize and Schedule Subsystems and Applications
- \$ Estimate and Acquire Necessary Renovation Resources

**E. Determine Conversion Methodology**

Every project environment must have an underlying methodology that specifies the processes needed to complete the conversion. Customs will follow the GAO guidelines for conversion strategy, and will adapt the guidelines to satisfy specific local requirements.

**Key Strategies:**

- \$ Develop and Publish Conversion Procedures, Such as Configuration Management and Quality Assurance
- \$ Determine Analysis and Conversion Tool
- \$ Define Specific Compliance Approach (*SDLC Counterpart: Requirements Definition*)
- \$ Define Tool Specific Conversion Method
- \$ Conduct Conversion Pilot, Document Areas for Improvement

**F. Establish a Year 2000 Environment**

Having an environment suitable for executing the conversion tasks and validation of the converted software is of paramount importance. Customs should start early in planning for and acquiring the resources necessary for maintaining the Year 2000 Environment.

**Key Strategies:**

- \$ Identify Environment Requirements for Hardware and Software
- \$ Monitor Environment Resources

**G. Manage Risk**

Consistent with Treasury guidance on risk management for Year 2000 conversion programs, the Program Office requires each process owner to develop and monitor a Risk Management Plan.

**Key Strategies:**

- \$ Identify Risks and Risk Mitigation
- \$ Monitor Risks

**H. Plan for System Continuity**

Continuity of essential Customs operations through the Year 2000 rollover must be assured.

**Key Strategies:**

- \$ Prepare System Contingency Plans
- \$ Implement Contingency Plans, if needed

**I. Renovate Systems**

The detailed design phase of a Year 2000 conversion project is similar in many respects to that of any development project. This phase finalizes the specifications for conversion, and executes the detailed strategy, using disciplined procedures.

Key Strategies:

- \$ Identify Interfaces
- \$ Secure Interface Agreements
- \$ Identify Specific Problematic Areas (*SDLC Counterpart: Detailed Specification*)
- \$ Renovate the Systems (*SDLC Counterpart: Develop and Unit Test or Replace/Repair the non-IT system*)
- \$ Monitor COTS Compliance

**J. Validate Systems**

Validation determines that the changes made are effective, and that no errors are introduced in the conversion process.

Key Strategies:

- C Plan for Validation
- \$ Baseline Test
- \$ Validation Test

**K. Verify Systems**

The verification step is the final opportunity to review applications before they are re-introduced into the production environment. For each conversion component, Customs must declare its state of verification.

Key Strategies:

- \$ Forward Age the Test Data
- C Forward Test

**L. Implement Systems to Production**

The fully verified system or application must be re-introduced into the production environment. During this phase, the current production data is transformed according to data expansion requirements, the verified software is moved into production, and the system users are made aware of the cutover date.

Key Strategies:

- \$ Prepare an Implementation Plan (*SDLC Counterpart: Implementation*)
- \$ Prepare a Training Plan
- \$ Convert Data
- \$ Move Verified Systems to the Production Platform
- \$ Cutover to Production

**Appendix A. Summary of Year 2000 Objectives and Supporting Strategies**

Objectives	Strategies	Overall Responsibility
A. Centrally Manage Year 2000 Project	<ul style="list-style-type: none"> <li>\$ Establish a Year 2000 Program Office</li> <li>\$ Establish an Executive Council</li> <li>\$ Establish and Track the Overall Program Plan</li> <li>\$ Develop Program Office Reporting Requirements</li> <li>\$ Establish Performance Measures</li> </ul>	\$ Year 2000 Program Office
B. Ensure Year 2000 Awareness	<ul style="list-style-type: none"> <li>\$ Develop an Outreach Plan</li> <li>\$ Implement the Outreach Plan</li> <li>\$ Maintain a Central Database of Program Artifacts</li> </ul>	\$ Year 2000 Program Office
C. Establish Enterprise Inventory	<ul style="list-style-type: none"> <li>\$ Develop Methodology for Inventory Collection</li> <li>\$ Develop Mechanism for Inventory Management and Tracking</li> <li>\$ Report Progress Against Inventory Baseline</li> </ul>	\$ Project teams with Program Office support
D. Plan for Conversion Resources	<ul style="list-style-type: none"> <li>\$ Determine Mission Critical Components</li> <li>\$ Prioritize and Schedule Subsystems and Applications</li> <li>\$ Estimate and Acquire Necessary Conversion Resources</li> </ul>	<p>\$ Project teams</p> <p>\$ Project teams, Quality Assurance Team with Program Office support</p>
E. Determine Conversion Methodology	<ul style="list-style-type: none"> <li>\$ Develop and Publish Conversion Procedures, Such as Configuration Management and Quality Assurance</li> <li>\$ Determine Analysis and Conversion Tool</li> <li>\$ Define Compliance Approach (<i>Requirements Definition</i>)</li> <li>\$ Define Tool Specific Conversion Method</li> <li>\$ Conduct Conversion Pilot, Document Areas for Improvement</li> </ul>	<p>\$ Project teams with Program Office support</p> <p>\$ Project teams with Program Office support</p>
F. Establish Year 2000 Environment	<ul style="list-style-type: none"> <li>\$ Identify Environment Requirements for Hardware and Software</li> <li>\$ Monitor Environment Resources</li> </ul>	\$ Systems Operations Team with Program Office support
G. Manage Risk	<ul style="list-style-type: none"> <li>\$ Identify Risk and Risk Mitigation</li> </ul>	\$ Process Owners with Project team and Program



**Appendix A.** Summary of Year 2000 Objectives and Supporting Strategies

Objectives	Strategies	Overall Responsibility
		Office Support
H. Plan for System Continuity	<ul style="list-style-type: none"> <li>\$ Prepare a System Continuity Plan</li> <li>\$ Implement Continuity Plan, if needed</li> </ul>	\$ Process Owners with Project team and Program Office Support
I. Renovate Systems	<ul style="list-style-type: none"> <li>\$ Identify Interfaces</li> <li>\$ Secure Interface Agreements</li> <li>\$ Identify Specific Problematic Areas (<i>Detailed Specification</i>)</li> <li>\$ Renovate the Systems (<i>Develop and Unit Test</i>)</li> <li>\$ Monitor COTS Compliance</li> </ul>	\$ Project teams with Program Office support
J. Validate Systems	<ul style="list-style-type: none"> <li>\$ Prepare a Validation Plan (<i>Testing</i>)</li> <li>\$ Baseline test, save results</li> <li>\$ Build the validation release</li> <li>\$ Validation test, compare to baseline results</li> </ul>	\$ Quality Assurance Team and Business System Owners with Program Office support
K. Verify Systems	<ul style="list-style-type: none"> <li>\$ Forward Age the Validation Data</li> <li>\$ Verification Test</li> </ul>	\$ Quality Assurance Team and Business System Owners with Program Office support
L. Implement Systems to Production	<ul style="list-style-type: none"> <li>\$ Prepare an Implementation Plan (<i>Implementation</i>)</li> <li>\$ Prepare a Training Plan</li> <li>\$ Convert data, as required</li> <li>\$ Move verified systems to the production platform</li> <li>\$ Cutover to production</li> </ul>	\$ Project teams and Systems Operations Team with Program Office support